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3

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POCKET COMPUTER NEWSLETTER

P.O. Box 232, Seymour, CT 06483

THE TAX MAN COMETH

And for most small businesspeople he comes every week! That means calculating the payroll deductions for each employee to come up with a net take home figure. This can become a downright depressing task, to say nothing about the amount of time it takes, what with having to use the FICA & FWT tables, calculator and so forth.

Well, you don't really have to go to all that trouble if you have a computer handy, right? You just load the FWT (federal witholding tax) tables into memory, make that deduction, crank out the FICA stuff using a formula, deduct that, and so forth.... But how much memory do you need in order to store that FWT table?

Friends, you don't need an FWT lookup table at all. Good old Uncle Sam came up with a piece-wise linear model of our sliding tax scale many years ago that enables FWT amounts to be directly calculated as a function of a person's exemptions, marital status and gross pay. This model fits easily in a TRS-80 Pocket Computer. And it is obvious from a lot of programs we have seen that a lot of people don't know about it. Witness the tape cassette program we recently reviewed that had a 55,000 byte FWT lookup table that it had to access each time an employee's witholding was determined.... and the table had to be stored on a tape cartridge. Why it took forever and a day to do a week's payroll.

The accompanying program assumes you know an employee's gross pay for a week. If you are starting with an hourly figure, you might want to remove line 10 and add a few lines to input hourly pay, number of hours worked, etc., ending up by assigning weekly gross pay to the variable G.

Note: this program calculates FWT specifically for **weekly** *pay periods.*

The program asks you to enter weekly gross pay, the number of exemptions claimed and marital status. It will then display the FWT deduction followed by the FICA deduction. Next the program allows you to enter a value for any other witholdings, such as, say, a deduction for insurance payments. Finally, you are given a net pay figure.

Pressing the ENTER key when the "net pay" figure is being displayed causes the program to loop back to handle the next employee.

It takes just a few seconds to perform the calculations on each employee. Quite a powerful little package to fit in your pocket!

Program Notes

Line 20 calculates FICA witholding. The individual amount in 1981 is 6.65 percent (0.0665). Remember, this percentage changes every year or so.

The subroutines starting at lines 60 and 80 calculate the FWT amounts for single and married persons respectively. The formulas used are based on the 1979 rates. These will have to be changed when the tax rate changes. *This may occur during 1981.* We will, of course, try to keep you advised accordingly.

A Warning

We are required to give the following warning to all users:

The **PC NEWSLETTER** *is not engaged in and does not represent itself to be engaged in the practice of giving tax or accounting counsel. The program and the data provided therein is for illustrative purposes only. We do not represent or warrant that the data produced by the program has any legal significance. You are solely responsible for your tax liabilities and should check with your own tax or legal counsel on matters concerning that liability.*

There, you get the message, right? Now pay those taxes!

```
10 G=0:INPUT "ENTER GROSS PAY? ";G
12 E=0:INPUT "# OF EXEMPTIONS? ";E
14 M=0:INPUT "SINGLE(0)/MARRIED(1)? ";M
16 IF M=0 GOSUB 60:GOTO 20
18 IF M=1 GOSUB 80:GOTO 20
19 GOTO 16
20 F=.0665*G
22 BEEP 2:X=INT(X*100+.5)/100:PRINT "FWT = ";X
24 F=INT(F*100+.5)/100:PRINT "FICA = ";F
26 Z=0:INPUT "OTHER WITHOLDINGS? ";Z
27 Z=INT(Z*100+.5)/100
28 G=G-X-F-Z:PRINT "NET PAY = ";G
30 GOTO 10
60 T=G-E*19.23
61 IF T<=0 GOTO 63
62 IF T>=27 GOTO 64
```

```
63 X=0:RETURN
64 IF T>=63 GOTO 66
65 X=.15*(T-37):RETURN
66 IF T>=131 GOTO 68
67 X=5.4+.18*(T-63):RETURN
68 IF T>=196 GOTO 70
69 X=17.64+.21*(T-131):RETURN
70 IF T>=273 GOTO 72
71 X=31.29+.23*(T-196):RETURN
72 IF T>=331 GOTO 74
73 X=51.31+.3*(T-273):RETURN
74 IF T>=433 GOTO 76
75 X=68.71+.34*(T-331):RETURN
76 X=103.39+.39*(T-433):RETURN
80 T=G-E*19.23
81 IF T<=0 GOTO 83
82 IF T>=46 GOTO 84
83 X=0:RETURN
84 IF T>=127 GOTO 86
85 X=.15*(T-46):RETURN
86 IF T>=210 GOTO 88
87 X=12.15+.18*(T-127):RETURN
88 IF T>=288 GOTO 90
89 X=27.09+.21*(T-210):RETURN
90 IF T>=369 GOTO 92
91 X=43.47+.24*(T-288):RETURN
92 IF T>=454 GOTO 94
93 X=62.91+.28*(T-369):RETURN
94 IF T>=556 GOTO 96
95 X=86.71+.32*(T-454):RETURN
96 X=119.35+.37*(T-556):RETURN
99 END
```

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PRODUCT REVIEW
GAMES PACK 1

Produced by: Radio Shack for the TRS-80 Pocket Computer.
List Price: $14.95
Availability: Many Radio Shack Computer Centers and some Radio Shack stores.

Overview

You get eight programs spread over two cassettes in this package. The programs are repeated on each side of the tapes.

A 24 page manual that explains how to load and operate each program is provided. Example illustrations and samples of the programs' operation are included. Listings of the programs are not provided in the manual, but these can be obtained by placing the computer in the PRO mode.

A brief summary of each game program is provided here.

Missionaries and Cannibals

There are 352 program steps left in memory after this program has been loaded.

This is a game that tests your ability to think ahead. The object of the game is to get a group of three missionaries and three cannibals across a river using a boat that can hold no more than three people. Sounds simple enough, eh? The hitch is that the missionaries must not be left outnumbered by the cannibals at any time, on land or in the boat. There are one or two other obstacles to overcome also.

There was even the obstacle of an incorrectly working program in the tape that we purchased for this review. However, an errata was included with the manual to allow for the correction of this problem. Hopefully, later versions of this package have eliminated the programming error.

The game is simple and the programming execution left something to be desired in our opinion. For instance, when the boat was loaded with three missionaries and taken across the river, we found that the computer would still merrily load cannibals into the boat at our command even though they were now supposedly on the opposite bank of the river. Of course, the boat was then "stolen" by the illegally loaded cannibals. It might be more appropriate not to allow such illegal moves to occur.

On the positive side of things, the manner in which the program represents the characters being ferried on the boat and depicts the population on either side of the river is quite clever considering that the machine does not have any true "graphics" capability.

The game, in our opionion, is not very challenging. This is particularly so for anyone accustomed to dealing with the logic of computers. We solved the problem on the first serious attempt at play and have no doubt that we could repeat the performance quite readily. Thus, the game offers no further challenge. It might, however, keep your children occupied for 15 or 20 minutes during a car trip. How much is that worth?

Nim

There are 763 program steps left in memory after this program has been loaded.

All this program really does is set up the playing board for the game of Nim. The board is represented as seven rows with seven items in each row. The game is intended for two players. The computer keeps track of the number of items removed from each row as the game proceeds. It will also identify the winner of the game. One observer commented that he thought the game was a lot more interesting when played with a handful of real pebbles.

Spaceship Lander

There are 840 programming steps left in memory after this program has been loaded.

Just about everyone is familiar with the old "lunar landing" game that has long been played by computer afficionados. This is a version of the popular game in miniature. Instead of starting at 120 miles out, you are put in command when the spaceship is a mere 2,678 feet above the surface of a planet. You control

the thrust to slow the rate of descent of your craft. A good landing is considered to be anything that reaches the surface with less than 10 units of velocity.

Once again we felt that this version of the game was rather unexciting. It was very easy to win. A virtually perfect landing was made on the first play of the game. Gee whiz, what is left after that?

Treasure Hunt

You will have 447 program steps left in memory after this program has been loaded.

We found this game a little bit better than some of the others in this package for the simple reason that you get the dynamics of playing against the computer. The object of the game is to locate a treasure that has been hidden in a 10 by 10 matrix. You are given an imaginary "purse" of money at the beginning of a game with which you can "buy" clues regarding the location of the treasure. You lose the game if you run out of money before you have found the treasure. To play the game you need to either mentally or physically keep track of your moves on the grid. Radio Shack helps you in this regards by providing a full two pages (out of their 24 page manual) of blank grids.

To try and locate the hidden treasure you specify an X and a Y coordinate on the grid. Once this has been done the computer responds by telling you the number of grid units you are from the treasure, but not the direction. The computer then charges you a certain amount of money which is deducted from your purse. The amount of money is related to how far you have moved.

This game has a typographical error in the introductory message when it wishes you "goodluck" as one word.

Oh well, at least this game, from the description, appears as though it would last a little longer and give more variation than some of the other games in the package.

Unfortunately, we have not been able to actually play this game because even though both copies of the program provided on the tape would load without error, the program would not display the data as shown in the manual. Though we are not absolutely sure, it appears that our version of the program was not functioning properly. For instance, we found that the display would not show the dollar value remaining in our game purse or provide the hint value discussed in the manual. Maybe the real treasure hunt here is to see if the user can get the program to display the information in the same manner as shown in the instruction booklet.

Biorhythms

It looks as though this was Radio Shack's big project for this package. Why a whole 2-1/2 pages in the manual is devoted to explaining the theory behind biorhythms, complete with the famous three-line graph representing the proposed physical, emotional and intellectual conditions that the theory is claimed to be capable of predicting.

In any event the program provided certainly does give you information with which you could determine your biorhythm curves. In case you are the type that doesn't like to do a lot of grueling graphing, the computer will alert you when it detects a "mini-critical" or "critical" day in any of the characteristic curves.

There are only 319 program steps left in memory when this program is resident.

The program appeared to operate just as outlined in the manual. It indicated that the primary reviewer of this games package was at a physical high while simultaneously being on mini-critical low points on both the emotional and intellectual curves on the date that the review took place. Readers should thus be alerted that this might have some bearing on the overall rating given to the package.

Star Blaster

There are 227 programs steps left in memory when this program has been loaded.

This game has been around for some time and has popularly been termed "shooting stars." A similar game can be found on electronic toys such as the popular "Merlin" device. The purpose of the game is to convert the contents of a three-by-three matrix having the middle cell occupied and the surrounding cells empty, to the opposite configuration with the center cell empty and the surrounding cells occupied.

You re-arrange stars in the grid by "blasting" an existing star. This act causes stars in neighboring locations to be created or destroyed depending on the local pattern that exist at the time the star is blasted.

The game appears to function as described. However, it is somewhat difficult to visualize the true relationships with neighboring stars unless you actually draw the matrix with pencil and paper. This is because the contents of the matrix are represented on the single display line of the TRS-80 Pocket Computer.

We found this game somewhat more challenging than, for instance, the Missionaries and Cannibals game.

Craps

This program uses virtually all of available memory. There are only 13 program steps left after the program has been loaded.

This is a standard version of the dice game "craps." You are only allowed to play the pass line, but you do have the option of matching your bet to obtain "single odds" while shooting for your point.

Someone at Radio Shack wants to make "good luck" into a one word salutation.

This game seems to be fairly well executed. The dice action appears to be pretty mixed and "choppy" and the numbers come up fast enough to maintain interest in the game, though it is by no means a "fast" game. If you are a veteran gambler you will probably enjoy this somewhat limited version of the game. At least you can use it to whet your appetite for the real thing. You might even do pretty well since this version of the game doesn't permit any of the usual sucker bets.

Quick Watson

After this program has been loaded there are 65 program steps left in memory.

This is a detective game where, using deduction and information provided by the computer, you try to match suspects with crimes. In each game there are four types of crimes assumed to have been committed by any one of seven individuals. As each type of crime is presented you name a suspect. The computer provides clues to help you "peg" the guilty party. You are given eight "trials" in which to try and link up the perpetrators to the crimes. The game is fairly simple. It is slightly reminiscent of the board game "Clue." Kids might enjoy this game for a considerably longer period of time than the average adult.

Summary

Once again, there is nothing fancy about the programs supplied in this package. Most of the programs are straightforward implementations of commonly available computer games. Since the TRS-80 Pocket Computer does not have any kind of graphics capability, you have to use your imagination or pencil and paper in order to visualize some of the playing grids.

All-in-all we could not help but get the impression that there was not a great deal of thought put into the production of this package. It is as though someone decreed that Radio Shack must have a games package A.S.A.P. and so it was done. Virtually all of the programs provided could readily be implemented by the simple compacting of programs found in sundry computer hobbyist journals.

We are giving the games program package a rating of 4 on our scale. You may remember from the previous issue that we said anything above a 3 was probably a worthwhile purchase for the average person even if only because you saved the time of looking up and typing in the programs. That is about what you get here.

We know it is still a bit early in the game, but we hope that now that Radio Shack has fulfilled their "obligation" to have a games package available, that they will take the time and effort to come up with a little better quality stuff in Games Pack 2.

SHARE YOUR POCKET COMPUTER KNOWLEDGE

We are always interested in hearing about applications for pocket computers, new products and news of the industry. Do you know of any operating time-savers, programming tips, short cuts or technical information that might be of interest to others?

If so, write it up! If your submission is accepted for publication you will earn a cash reward. If we cannot use your material, we will endeavor to promptly return it *provided you include a self addressed stamped envelope for that purpose.* We are careful, but we cannot assume responsibility for submitted materials.

Submissions should be addressed to: The Editor, PC NEWSLETTER, PO Box 232, Seymour, CT 06483

PRODUCT REVIEWERS WANTED

Do you have a few spare hours on your hands? Would you be available to review new pocket computer programs? We are looking for a few discerning individuals that feel they could write accurate, unbiased, reports on the operation of programs. Do they deliver what they advertise? Would you have bought the package? How could they do better?

If you would like to be on our list of volunteer reviewers, drop us a line, tell us what kind of pocket computer you have, let us know any particular areas of special interest or expertise.

What will you get for your time and effort? First, you get to keep the software package you review. Second, you will receive a cash bonus if your review is accepted for publication. Third, you will earn the respect and appreciation of fellow PC users who may be considering the software you report on.

You say you are not an expert writer? Just give us your findings as best you can. We will take care of polishing up the prose if that is needed. So, if you are interested, send in your name.... to the attention of the editor, of course.

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